



HARGIS + ASSOCIATES, INC.

APPENDIX A

LITHOLOGIC LOGS AND WELL CONSTRUCTION DIAGRAMS



APPENDIX A

LITHOLOGIC LOGS AND WELL CONSTRUCTION DIAGRAMS

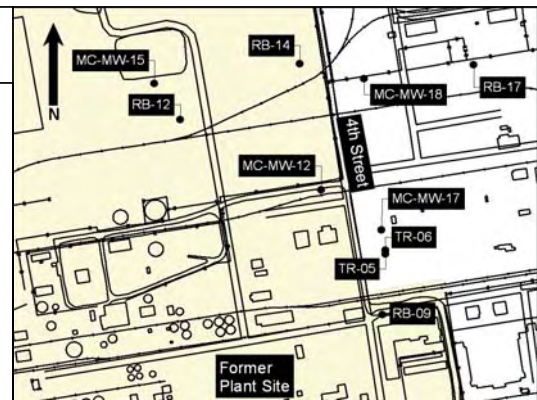
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Lithologic log for: RB-09

Northing 26717297.523 **Drill Method** RotoSonic
Easting 826582.039 **Sampling Method** Continuous
LS Elev. (ft) 1811.53 **Diameter of Casing** N/A
Ref. Pnt. Ground Elevation **Type of Casing** N/A
Ref. Pnt. Elev. (ft) 1811.53 **Slot Size** N/A
Total Depth (ft) 150 bls **Filter** N/A
Depth to Water (ft) N/A
Date 04/11/07 - 04/12/07



Depth (Feet Below Land Surface)	PID/FID (ppm)	Lithologic Log	USCS	Lithologic Description	Comments
0		ASPHALT		Asphalt, subgrade.	
N/A/ N/A				SAND with Silt, trace Gravel, 80% sand, 10% silt, 5% gravel, brown (7.5YR, 5/4), firm, weakly cemented, slightly moist, no odor; sand, coarse-grained to medium-grained, predominantly medium-grained.	Hand Augered (0-4 feet bls)
0.8/ 3.26					
5					
0.5/ 0.73					
0.3/ 0.81					
10					8" diameter borehole
0.0/ 0.62					
0.3/ 0.65					
15			SP		
0.0/ 0.41					
0.3/ 2.21					
0.4/ 1.21					
20					
0.5/ 10.02					
0.2/ 8.00					
25					
0.0/ 0.82					
0.0/ 0.85					
0.0/ 0.40					
30					Caliche Zone
0.1/ 0.92		CALICHE		Caliche zone, weakly cemented, pinkish-white (7.5YR, 8/3), the texture of fine-grained sand.	
		SW			

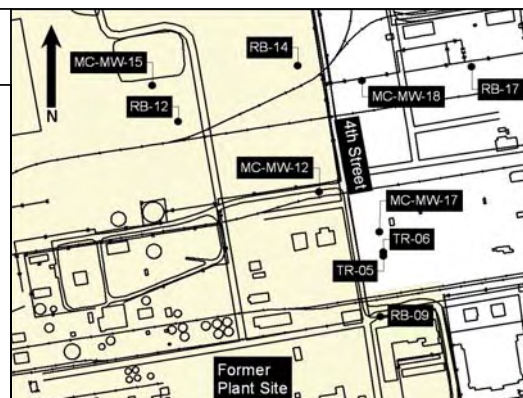
Depth (Feet Below Land Surface)	PID/FID (ppm)	Log Lithologic	USCS	Lithologic Description	Comments
0.4/ 4.62				Silty SAND, 80% sand, 20% silt, brown (7.5YR, 5/4), soft, loose, slightly moist, no odor; sand, fine-grained grading to silt.	
0.1/ 0.71				SILT with Sand, 90% silt, 10% sand, brown (7.5YR, 5/4), soft, plasticity: low- to none.	
0.3/ 1.14			ML		
0.4/ 1.35					
0.4/ 1.31					
1.0/ 7.57			SP	Gravelly SAND, trace Silt, brown (7.5YR, 5/4), firm to loose, slightly moist; sand, coarse- to fine-grained, predominantly medium-grained.	
0.5/ 4.53					
0.4/ 3.80			ML	CLAYEY SILT, brown (7.5YR, 5/4), firm to moderately dense, plasticity: moderate- to low, slightly moist.	
0.6/ 2.20					
0.2/ 2.01			ML	Sandy SILT, 60% silt, 40% sand, brown (7.5YR, 5/4), firm, low plasticity, moist/wet; sand, fine-grained grading to silt..	
0.9/ 3.31			SP	SAND with Silt, 90% sand, 10% silt, multi-colored grains, loose, wet, predominantly coarse-grained.	
0.9/ 3.63				CLAYEY SILT, brown (7.5YR, 5/4), firm to moderately dense, plasticity: moderate- to low, slightly moist.	
0.8/ 3.20				At 52- to 53 feet: caliche nodules.	
0.6/ 3.51			ML	From 58- to 60 feet: mottled, brown (7.5YR, 5/4) with light brown (7.5YR, 6/2). Little or no reaction with HCl.	
0.5/ 3.74				From 60- to 63 feet: predominantly caliche nodules.	
0.4/ 3.02					
0.8/ 7.91				CLAYEY-SILT, brown (7.5YR, 5/4), moderately dense, moderate- to high plasticity, slightly moist, no odor, no reaction with HCl.	
1.8/ 15.52			ML		
1.8/ 20.09					
1.1/ 10.80					
19.6/ 55.21			CALICHE	Caliche Zone: fine-grained caliche forms matrix, caliche nodules, grains present.	
			ML	CLAYEY-SILT, brown (7.5YR, 5/4), dense to very dense, plasticity: moderate- to high.	

Depth (Feet Below Land Surface)	PID/FID (ppm)	Log Lithologic	USCS	Lithologic Description	Comments
75	42.8/ 198				
	14.5/ 55.42		ML	Sandy SILT, brown (7.5YR), dense to very dense, plasticity: moderate- to high; caliche grains, disseminated caliche. At 75.5 feet: caliche nodules.	
	2.1/ 17.42				
80	1.2/ 15.83		SP	SAND, with Silt, with Gravel, 80% sand, 10% silt, 10% gravel, brown (7.5YR, 4/4) with multicolored grains, predominantly coarse-grained sand. Basalt.	
	1.2/ 17.85				
	12.3/ 65.42				
85	1.6/ 27.44				
	0.9/ 13.74				
	0.1/ 16.21		ML	CLAYEY-SILT, brown (7.5YR, 5/4), dense to very dense, plasticity: moderate- to high. At 86- to 96 feet: occasional caliche grains.	
	0.8/ 10.50				
	0.3/ 10.75				
95	0.3/ 6.85				
	0.2/ 2.43				
	0.4/ 2.67				
100	0.7/ 3.15				
	0.4/ 2.68				
	0.4/ 4.02				
	0.5/ 3.13				
105	0.6/ 3.50				
	0.8/ 4.25				
	0.3/ 5.27				
110					
115					

Depth (Feet Below Land Surface)	PID/FID (ppm)	Log Lithologic	USCS	Lithologic Description	Comments
115	0.6/ 5.60			At 136.5: stringer of caliche nodules.	
	0.4/ 3.40			At 139- to 140 feet, and at 143- to 144.5 feet: caliche nodules, grains.	
120	0.3/ 2.37				
	0.0/ 2.24				
	0.1/ 1.60				
125	0.0/ 1.31				
	0.1/ 1.96				
130	0.1/ 1.20		ML		
	0.0/ 1.15				
	0.0/ 1.22				
135	0.0/ 1.27				
	0.0/ 1.34				
140	0.0/ 0.43				
	0.0/ 1.24				
	0.0/ 0.75				
145	0.0/ 0.64				
	0.0/ 0.91				
150	0.0/ 0.56				Total Depth = 150 feet bls

Lithologic log for: RB-12

Northing 26718239.386 **Drill Method** RotoSonic
Easting 825634.662 **Sampling Method** Continuous
LS Elev. (ft) 1787.09 **Diameter of Casing** N/A
Ref. Pnt. Ground Elevation **Type of Casing** N/A
Ref. Pnt. Elev. (ft) 1787.09 **Slot Size** N/A
Total Depth (ft) 130 **Filter** N/A
Depth to Water (ft) N/A
Date 04/02/07 - 04/03/07



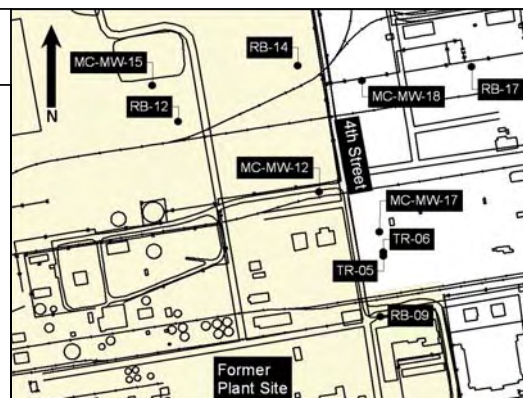
Depth (Feet Below Land Surface)	PID/FID (ppm)	Lithologic Log	USCS	Lithologic Description	Comments
0			SW-SP	Fill. Gravelly SAND with Silt, 70% sand, 20% gravel, 10% silt, brown (7.5YR, 4/4), loose, slightly moist, no odor; sand, ranging from coarse-grained to silt, predominantly medium-grained.	8" diameter borehole
0.2/ 4.22			CL		
1.5/ 4.30			SW-SP	Brine Mud, the texture of silty clay, white (10YR, 8/1), soft, high plasticity.	
0.9/ 4.60			CL	Fill. Gravelly SAND with Silt, 70% sand, 20% gravel, 10% brown (7.5YR, 4/4), loose, slightly moist, no odor; sand, ranging from coarse-grained to silt, predominantly medium-grained.	
0.1/ 4.53					
10				Brine Mud, the texture of silty clay, white (10YR, 8/1), mottled with brown (7.5YR, 4/4), soft, high plasticity.	
0.1/ 4.56					
0.2/ 4.66				SAND with Silt, trace Gravel, 85% sand, 10% silt, 5% gravel, brown (7.5YR, 5/4), loose, slightly moist, no odor; sand, coarse-grained grading to fine-grained, predominantly medium-grained.	
15					
0.0/ 4.64			SP		
0.1/ 4.73					
20					
0.0/ 4.65					
0.0/ 4.47					
0.2/ 4.54					
25					
0.7/ 4.49				Gravelly SAND with Silt, occasional cobbles, 70% sand, 15% gravel, 10% silt, 5% cobbles, brown (7.5YR, 5/4) with multicolored grains, firm/weakly cemented, slightly moist, coarse fraction coated with caliche; sand, coarse- to fine-grained, predominantly medium-grained.	
0.4/ 4.52					
30					
0.6/ 4.49					
0.0/ 4.15			SP	At 37- to 37.5 feet, and at 39.5- to 40 feet: finely disseminated caliche, firm/weakly cemented.	
0.0/ 4.28					
35					
0.0/ 4.16					

Depth (Feet Below Land Surface)	PID/FID (ppm)	Log Lithologic	USCS	Lithologic Description	Comments
0.0/ 4.20					
40 0.0/ 4.50			SM	Silty SAND with Gravel, 60% sand, 30% silt, 10% gravel, brown (7.5YR, 5/3), weakly cemented, slightly moist, slight chemical odor; sand, coarse-grained grading to silt.	
0.0/ 4.26			SP		
45 0.0/ 4.28				Gravelly SAND with Silt, occasional cobbles, 70% sand, 15% gravel, 10% silt, 5% cobbles, brown (7.5YR, 5/4) with multicolored grains, firm/weakly cemented, slightly moist, coarse fraction coated with caliche; sand, coarse- to fine-grained, predominantly medium-grained.	
655/ 1820			ML		
957/ 1914			ML		
50 712/ 1683				Sandy CLAYEY SILT, 60% clayey-silt, 40% sand, brown (7.5YR, 5/3) mottled with lighter colored, finely disseminated caliche, dense, moderate plasticity, chemical odor increasing.	
548/ 3500					
55 697/ 5320				Sandy CLAYEY SILT, 60% clayey-silt, 40% sand, brown (7.5YR, 5/3) mottled with lighter colored, finely disseminated caliche, soft to moderately dense, moderate plasticity,	
897/ 3500			ML		
865/ 7650				CLAYEY-SILT with Sand, 90% clayey silt, 10% sand, reddish brown (5YR, 4/3), dense, moderate- to high plasticity, caliche stringers, nodules, and disseminated caliche present this interval.	
60 936/ 7480					
794/ 10300					
858/ 2900			ML		
65 520/ 3145				Sandy SILT, 80% silt, 20% sand, brown (7.5YR, 4/4) soft, moderate plasticity.	
785/ 2460					
70 795/ 3865				CLAYEY-SILT with Sand, 90% clayey silt, 10% sand, reddish brown (5YR, 4/3), dense, moderate- to high plasticity, caliche stringers, nodules, and disseminated caliche present this interval.	
1135/ 3345					
1197/ 7719					
75 1699/ 7620			ML		
1076/ 5630					
80 639/ 2780					
1396/ 12700					
1686/ 12200					
85					

Depth (Feet Below Land Surface)	PID/FID (ppm)	Log Lithologic	USCS	Lithologic Description	Comments
513/ 2240			ML	CLAYEY SILT, very pale brown (7.5YR, 7/3), soft, fragments of caliche present.	
278/ 2265			ML	CLAYEY-SILT with Sand, 90% clayey silt, 10% sand, reddish brown (5YR, 4/3), dense, moderate-to high plasticity, caliche stringers, nodules, and disseminated caliche present this interval.	
104/ 481			ML		
61.6/ 276			ML	CLAYEY SILT, very pale brown (7.5YR, 7/3), soft, fragments of caliche present.	
45.5/ 242			ML		
16.8/ 68.25			SM	Silty SAND, 60% sand, 40% silt (7.5YR, 5/4), firm, very weakly cemented, moist, no odor; sand, fine-grained grading to silt.	
3.4/ 13.75			ML	Sandy SILT, 60% silt, 40% sand, (7.5YR, 5/4), firm, very weakly cemented, moist, no odor; sand, fine-grained grading to silt.	
6.1/ 19.22			SM		
1.0/ 4.75			ML	Silty SAND, 60% sand, 40% silt (7.5YR, 5/4), firm, very weakly cemented, moist, no odor; sand, fine-grained grading to silt.	
1.2/ 6.50			ML	CLAYEY-SILT with Sand, 90% clayey silt, 10% sand, reddish brown (5YR, 4/3), dense, moderate-to high plasticity, caliche stringers, nodules, and disseminated caliche present this interval.	
1.5/ 6.20			ML		
1.1/ 6.25			ML		
0.4/ 5.67			ML	CLAYEY SILT, very pale brown (7.5YR, 7/3), soft, fragments of caliche present.	
4.5/ 9.97			ML		
1.2/ 3.62			ML	CLAYEY-SILT with Sand, 90% clayey silt, 10% sand, reddish brown (5YR, 4/3), dense, moderate-to high plasticity, abundant caliche nodules this interval.	
1.0/ 2.27			ML	At 120- to 120.5 feet, and at 124- to 124.5 feet: silty sand stringers.	
1.1/ 3.39			ML		
2.8/ 8.63			ML		
0.0/ 1.21			ML		
0.7/ 4.65			ML		
1.42/ 4.67			ML		
2.3/ 7.54			ML		
0.8/ 1.71			ML		
130					Total Depth = 130 feet bls

Lithologic log for: RB-14

Northing 26718510.75 **Drill Method** RotoSonic
Easting 826194.837 **Sampling Method** N/A
LS Elev. (ft) 1779.16 **Diameter of Casing** N/A
Ref. Pnt. Ground Elevation **Type of Casing** N/A
Ref. Pnt. Elev. (ft) 1779.16 **Slot Size** N/A
Total Depth (ft) 150 bls **Filter** N/A
Depth to Water (ft) N/A
Date 04/05/07 - 04/10/07



Depth (Feet Below Land Surface)	PID/FID (ppm)	Lithologic Log	USCS	Lithologic Description	Comments
0			SP	SAND, with Silt, trace Gravel, 85% sand, 10% silt, 5% gravel, brown (7.5YR, 5/4) with multicolored grains, loose, slightly moist; sand, coarse-grained to silt, predominantly medium-grained.	8" diameter borehole
0.3/ 3.09					
5			SP	Gravelly SAND, with Silt, occasional Cobbles, 70% sand, 15% gravel, 10% silt, 5% cobbles, brown (7.5YR, 5/4) with multicolored grains, loose, slightly moist, no odor, coarse fraction coated with caliche; sand, coarse-grained grading to silt, predominantly medium-grained.	
0.2/ 3.10					
0.2/ 2.60					
0.1/ 2.94					
10					
0.3/ 3.12					
0.2/ 3.07					
0.1/ 3.13					
15					
0.4/ 5.02					
0.9/ 8.39					
20					
1.4/ 10.02					
0.8/ 9.54					
25			ML	Sandy CLAYEY-SILT, 80% clayey-silt, 20% sand, reddish brown (5YR, 4/4), dense, moderate- to low plasticity, slightly moist, no odor; sand, fine-grained grading to silt. Gypsum present, no reaction with HCl.	
0.8/ 10.01					
0.4/ 4.40					
0.3/ 9.35					
30			ML	CLAYEY SILT, light brown (7.5YR, 6/4), moderately dense, high to moderate plasticity, slightly moist, no odor.	
2.3/ 27.58					
			ML		



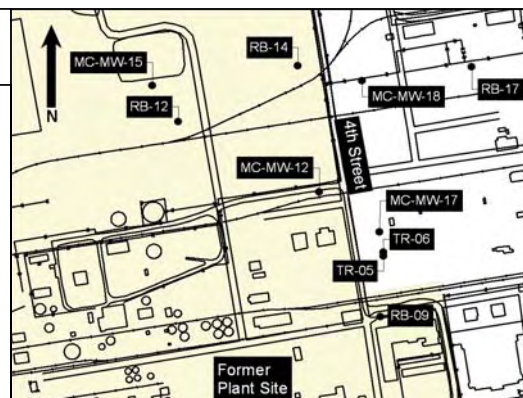
Depth (Feet Below Land Surface)	PID/FID (ppm)	Log Lithologic	USCS	Lithologic Description	Comments
1.2/ 38.85			ML	CLAYEY SILT, light brown (7.5YR, 6/4), moderately dense, high to moderate plasticity, slightly moist, no odor, calcium carbonate concretions, reacts strongly with HCl.	
7.4/ 189			ML	Sandy CLAYEY SILT, 85% clayey silt, 15% sand, reddish brown (5YR, 4/4), moderately dense, low plasticity, slightly moist.	
0.0/ 3.6			ML		
0.2/ 22.65			SM	Sandy CLAYEY SILT, 85% clayey silt, 15% sand, reddish brown (5YR, 4/4), dense, low plasticity, slightly moist, gypsum.	
5.7/ 61.09			ML	Silty SAND, 60% sand, 40% silt, brown (7.5YR, 5/4), loose, slightly moist, no odor; sand, coarse-grained grading to silt, predominantly medium-grained.	
15.8/ 232				CLAYEY SILT, strong brown (7.5YR, 5/6), moderately dense, moderate plasticity.	
12.7/ 338				CLAYEY SILT, strong reddish brown (5YR, 5/4), moderately dense, moderate plasticity. Chemical odor begins at approximately 45 feet.	
830/ 2852				At 52 feet: stringer of caliche nodules.	
944/ 6401				At 60- to 68.5 feet: occasional caliche nodules.	
1171/ 6755				At 68.5- to 69 feet: cemented caliche grains.	
948/ 7392					
1077/ 12000			ML		
1471/ 5977			ML		
1702/ 9015					
1441/ 5026					
1871/ 8863					
1638/ 9202					
916/ 3857					
1842/ 7954					
2652/ 15900				CLAYEY SILT, reddish brown (5YR, 5/4), soft to moderately dense, moderate plasticity, abundant caliche nodules.	
316/ 1523					

Depth (Feet Below Land Surface)	PID/FID (ppm)	Log Lithologic	USCS	Lithologic Description	Comments
75	200/ 748				
	340/ 2398				
	295/ 1241				
80	213/ 1280		ML		
	180/ 1152				
	152/ 1162				
85	20.7/ 135				
	1.4/ 13.50				
90	0.5/ 9.69		ML	CLAYEY SILT, light brown (7.5YR, 6/3), soft to moderately dense, moderate- to low plasticity, comprised predominantly of caliche grains the texture of medium- to fine-grained sand, abundant caliche nodules this interval.	
	0.8/ 14.10				
95	0.1/ 12.83		ML	CLAYEY SILT, reddish brown (5YR, 5/4), soft to moderately dense, moderate plasticity, abundant caliche nodules.	
	0.3/ 12.62				
	0.2/ 12.60		ML	CLAYEY SILT, pale brown (10YR, 6/3), moderately dense, moderate plasticity, abundant caliche nodules.	
100	0.0/ 11.02			CLAYEY SILT, reddish brown (5YR, 5/4), soft to moderately dense, moderate plasticity.	
	0.2/ 4.50				
	0.2/ 5.67		ML		
105	0.1/ 4.44				
	0.1/ 5.20				
110	0.3/ 7.98			No Recovery.	
	N/A/ N/A				
	N/A/ N/A				No Recovery (110-115 feet bls)
115					

Depth (Feet Below Land Surface)	PID/FID (ppm)	Log Lithologic	USCS	Lithologic Description	Comments
115	0.0/ 4.03		ML	CLAYEY SILT, reddish brown (5YR, 5/4), soft to moderately dense, moderate plasticity.	
	0.3/ 7.50				
120	0.0/ 4.00		ML	Sandy SILT, 70% silt, 30% sand, brown (7.5YR, 5/4), soft to moderately dense, plasticity: low- to none; sand, fine-grained grading to silt.	
	0.3/ 3.10				
	0.1/ 5.20				
125	0.1/ 3.57				
	0.0/ 4.80				
130	0.0/ 3.60		ML	Sandy CLAYEY SILT, 80% clayey silt, 20% sand, brown (7.5YR, 5/4), moderately dense, moderate to low plasticity; sand, fine-grained grading to silt, occasional caliche nodules.	
	0.0/ 2.26				
	0.0/ 4.32				
135	0.3/ 3.84			CLAYEY SILT, trace Sand, reddish brown (5YR, 5/4), dense, high- to moderate plasticity, occasional caliche nodules.	
	0.2/ 2.06				
140	0.2/ 1.60		ML		
	0.5/ 1.06				
	0.1/ 1.02				
145	0.2/ 1.29				
	0.1/ 1.08				
150	0.0/ 0.9				Total Depth = 150 feet bls

Lithologic log for: RB-15

Northing 26719054.434 **Drill Method** RotoSonic
Easting 826441.394 **Sampling Method** Continuous
LS Elev. (ft) 1766.70 **Diameter of Casing** N/A
Ref. Pnt. Ground Elevation **Type of Casing** N/A
Ref. Pnt. Elev. (ft) 1766.70 **Slot Size** N/A
Total Depth (ft) 116 bls **Filter** N/A
Depth to Water (ft) N/A
Date 04/09/2008 - 04/10/2008



Depth (Feet Below Land Surface)	PID/FID (ppm)	Lithologic Log	USCS	Lithologic Description	Comments
0				Gravelly SAND with Silt, 75% sand, 15% gravel, 10% silt, brown (7.5YR, 5/3), with multicolored grains, loose, slightly moist; sand, predominantly medium-grained; reacts with HCl.	
1.1/ 1.31					
0.5/ 1.76				At 4.5 feet: weakly cemented with caliche.	
5				At 18-19 feet: weakly cemented with caliche.	
0.9/ 2.12				21-25 feet: weakly cemented with caliche; more heavily cemented with depth throughout this interval; at 23 feet: caliche discs/cookies.	8-inch diameter borehole
0.8/ 1.73					
10					
1.1/ 1.45					
0.4/ 0.98			SP		
1.3/ 1.21					
1.4/ 2.10					
0.9/ 1.25					
20					
2.7/ 0.82					
2.8/ 1.12					
2.6/ 1.25					
25					
1.4/ 1.70					
2.6/ 1.52				SILT with Sand, 90% silt, 10% sand, brown (7.5YR, 5/4), firm, slightly moist, low plasticity to non-plastic. No reaction with HCl.	
30					
2.3/ 5.67					
2.6/ 21.24			ML		

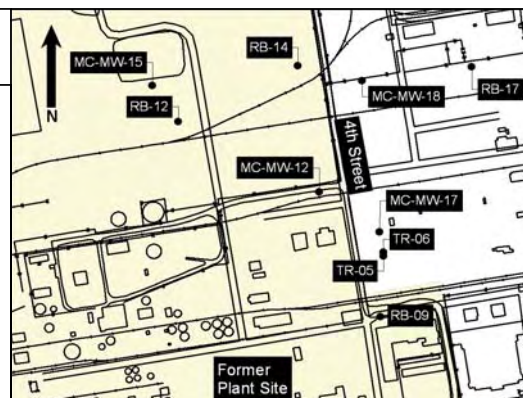


Depth (Feet Below Land Surface)	PID/FID (ppm)	Log Lithologic	USCS	Lithologic Description	Comments
35	9.3/ 19.34				
	7.7/ 28.42				
	137/ 221				
40	101/ 196		ML	CLAYEY SILT, brown (7.5YR, 5/4) moderately dense, moderate- to high plasticity, caliche nodules present.	
	124/ 501				
	83.5/ 240		ML	Clayey SILT with Sand, 90% clayey silt, 10% sand, brown (7.5YR, 5/4), moist, moderately dense, low plasticity.	
45	132/ 283				
				No Recovery.	
50					No Recovery from 48 to 54 feet below land surface
55	170/ 320		ML	Clayey SILT with Sand, 90% clayey silt, 10% sand, brown (7.5YR, 5/4), moist, moderately dense, low plasticity.	
	105/ 471				
60	35.1/ 69.73		ML	CLAYEY SILT, light brown (7.5YR, 6/3), dense, slightly moist, low- to moderate plasticity, caliche grains present.	
	38.2/ 52.34		ML-CL	From 59- to 61 feet: heavily calichified; layers of caliche interbedded with clayey silt, predominantly caliche.	
	65.4/ 167			CLAYEY SILT/SILTY CLAY, brown (7.5YR, 4/4), dense, high plasticity.	
65	178/ 583				
	157/ 560		ML	CLAYEY SILT, brown (7.5YR, 4/4) with mottling, moderately dense, moderately plastic, abundant caliche nodules, stringers this interval.	
	71.8/ 261			From 68- to 72.5 feet: only occasional caliche nodules.	
70	300/ 569				
				No Recovery.	No Recovery from 73 to 75 feet below land surface
75	42.4/ 98.05			Sandy, CLAYEY SILT, 85% clayey silt, 15% sand, brown (7.5YR, 4/3) with lighter mottling, soft, loose, abundant caliche grains, nodules.	

Depth (Feet Below Land Surface)	PID/FID (ppm)	Log Lithologic	USCS	Lithologic Description	Comments
60.2/ 81.21			ML		
80 47.2/ 50.25					
93.4/ 81.55			ML	CLAYEY SILT with Sand, 90% clayey silt, 10% sand, firm to soft, moderate- to high plasticity; sand fraction consists of caliche grains, caliche nodules present.	
85 80.0/ 78.75					
55.0/ 79.72			ML	From 84 feet: dense. At 86 feet: stringer of caliche nodules.	
75.3/ 93.76					
90 55.1/ 64.75			CL	SILTY CLAY, brown (7.5YR, 4/6), very dense, high plasticity.	
			ML		
49.7/ 86.21			ML	SILT, pinkish white (7.5YR, 8/2), firm- to moderately dense, low plasticity, consists of caliche grains.	
6.1/ 5.42				CLAYEY SILT with Sand, brown (7.5YR, 4/3), moderately dense, low plasticity; sand fraction consists of caliche grains.	
95 4.6/ 8.01					
3.0/ 2.85				SILTY CLAY, brown (7.5YR, 4/6), very dense, high plasticity, pockets of caliche grains present.	
100 1.3/ 2.50				95- to 96 feet: caliche grains.	
0.9/ 0.74					
0.7/ 0.46			CL		
105 0.2/ 0.25					
0.7/ 0.85					
110 0.6/ 0.31					
0.7/ 0.35					
115 0.7/ 0.46					
0.4/ 0.42					
					Total Depth = 116 feet below land surface

Lithologic log for: RB-17

Northing 26718505.744 **Drill Method** RotoSonic
Easting 827008.010 **Sampling Method** Continuous
LS Elev. (ft) 1782.05 **Diameter of Casing** N/A
Ref. Pnt. Ground Elevation **Type of Casing** N/A
Ref. Pnt. Elev. (ft) 1782.05 **Slot Size** N/A
Total Depth (ft) 116 bls **Filter** N/A
Depth to Water (ft) N/A
Date 04/08/2008



Depth (Feet Below Land Surface)	PID/FID (ppm)	Lithologic Log	USCS	Lithologic Description	Comments
0				Gravelly SAND, trace Silt, 75% sand, 20% gravel, 5% silt, brown (7.5YR, 4/4) with multicolored grains, loose, slightly moist; sand, predominantly fine-/very fine-grained; gravel, sub-angular to angular, predominantly fragments of fractured basalt.	
0.3/ 1.61					
1.3/ 1.45					
5					
0.0/ 0.84					
0.0/ 0.57					
10					
0.1/ 0.68					
0.4/ 0.72					
1.1/ 0.95					
15					
3.1/ 3.50					
0.2/ 1.54					
20					
1.3/ 2.10					
2.5/ 3.38					
25					
6.4/ 8.77					
9.8/ 15.26					
2.8/ 19.21					
30					
4.2/ 20.04					
5.5/ 40.27					

8-inch diameter borehole


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PID = Photo Ionization Detector
 FID = Flame Ionization Detector
 > = greater than

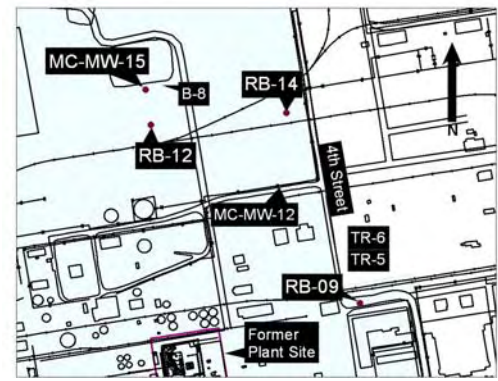
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 Checked By BRW
 Page 1 of 3

Depth (Feet Below Land Surface)	PID/FID (ppm)	Log Lithologic	USCS	Lithologic Description	Comments
35	4.2/ 22.30				
	3.5/ 31.53				
	2.8/ 24.65				
40	1.4/ 10.71				
	9.9/ 45.12		SM		
	4.3/ 37.27				
45	5.0/ 49.36				
	4.2/ 18.06				
50	3.1/ 28.36		ML		
	4.5/ 48.78				
	5.6/ 57.64		SM		
55	3.9/ 52.83				
	4.7/ 19.22				
60	4.3/ 44.93				
	3.4/ 39.77		ML		
	10.2/ 98.27				
65	5.8/ 110				
	4.2/ 116				
70	3.9/ 50.74				
	4.2/ 51.90				
	2.5/ 44.25				
75	4.1/ 75.09		ML		

Depth (Feet Below Land Surface)	PID/FID (ppm)	Log Lithologic	USCS	Lithologic Description	Comments
80	4.3/ 164				
	12.4/ 98.11				
	4.2/ 97.41				
85	3.5/ 106				
	5.8/ 117				
	2.2/ 15.08				
90	2.4/ 16.27		ML-CL	CLAYEY SILT/SILTY CLAY, brown (7.5YR, 5/4), dense, high plasticity.	
	1.5/ 30.44				
	2.1/ 28.75				
95	2.6/ 25.26				
	1.6/ 21.04		ML	CLAYEY SILT, brown (7.5YR, 5/4), firm, moderate-to high plasticity, occasional caliche nodules.	
100	1.3/ 10.47				
	--/ 10.39		ML-CL	CLAYEY SILT/SILTY CLAY, brown (7.5YR, 5/4), dense, high plasticity.	
	1.4/ 10.39				
105	1.6/ 7.91			SILTY CLAY, brown (7.5YR, 5/4), very dense, high plasticity.	
	1.4/ 9.19			At 106 feet: pockets of caliche grains.	
110	1.9/ 2.21		CL		
	0.7/ 2.67				
115	1.0/ 1.72				
	1.6/ 2.12				
					Total Depth = 116 feet below land surface

Lithologic and well construction log: MC-MW-15

Northing 26718415.142 **Drill Method** RotoSonic
Easting 825513.650 **Sampling Method** Continuous
LS Elev. (ft) 1786.65 **Diameter of Casing** 4"
Ref. Pnt. Top of Casing **Type of Casing** Steel
Ref. Pnt. Elev. (ft) 1788.44 **Slot Size** 0.010"
Total Depth (ft) 150 bls **Filter** #10-20 Sand
Depth to Water (ft) 48.65
Date 04/16/07 - 04/18/07

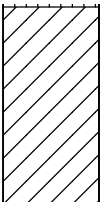
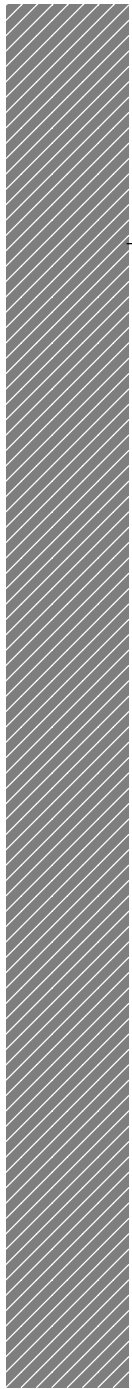
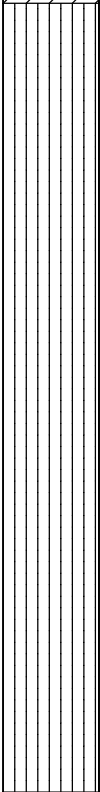
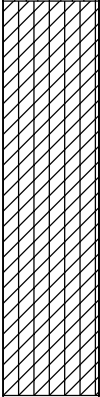


Depth (Feet Below Land Surface)	PID/FID (ppm)	Lithologic Log	USCS	Lithologic Description	Well Construction	Comments
0	N/A/ N/A			Gravelly SAND with Silt, 70% sand, 15% gravel, 10% silt, brown (7.5YR, 5/3), loose, slightly moist, no odor; sand, coarse- to fine-grained, predominantly medium-grained.		Monument Vault (Top of Casing is ~1.98 feet above land surface)
	N/A/ N/A			At 34.5 to 35 feet: clayey silt stringer.		Hand augered (0- 5 feet bls)
5	0.0/ 0.45					
	0.0/ 0.65					
10	0.0/ 1.26					8" diameter borehole
	0.0/ 1.14					
	0.0/ 0.75					
15	0.0/ 1.72					Bentonite cement (0-79 feet bls)
	0.0/ 1.83					
20	0.0/ 1.90		SP			4" ID steel casing (0-83.1 feet bls)
	0.6/ 3.80					
	0.2/ 3.63					
25	1.5/ 10.07					
	0.1/ 3.58					
30	0.2/ 2.85					

Depth (Feet Below Land Surface)	PID/FID (ppm)	Log Lithologic	USCS	Lithologic Description	Well Construction	Comments
0.3/ 4.40						
0.2/ 3.98						
0.6/ 12.21						
0.6/ 10.04						
1.0/ 19.64			ML	CLAYEY SILT with Sand, 90% clayey silt, 10% sand, brown (7.5YR, 5/4), moderately dense, moderate plasticity, moist, no odor; sand, fine-grained grading to silt.		
4.9/ 35.24			SM-ML	Sandy SILT/Silty SAND, brown (7.5YR, 5/4), moderately dense to loose; sand, coarse-grained grading to silt.		
1.5/ 21.75						
7.2/ 75.26			ML	CLAYEY SILT with Sand, 90% clayey silt, 10% sand, brown (7.5YR, 5/4), moderately dense, moderate plasticity, moist, chemical odor begins at 46 feet; sand, fine-grained grading to silt.		
5.0/ 91.55			SM	Silty SAND, 60% sand, 40% silt, brown (7.5YR, 5/4), moderately dense to firm, moist; sand, predominantly fine-grained, caliche nodules present.		
22.1/ 191						
53.2/ 435				CLAYEY SILT, brown (7.5YR, 5/4), moderately dense to firm, moderate- to high plasticity, caliche nodules present.		
186/ 1462				At 50- to 51 feet: abundant caliche nodules.		
149/ 1036				At 55- to 60 feet: abundant caliche grains.		
208/ 1310						
261/ 1209			ML			
175/ 1052						
235/ 1801						
121/ 1255						
158/ 1296						
112/ 1132						
40.9/ 387			ML	CLAYEY SILT, brown (7.5YR, 5/4), moderately dense to firm, moderate- to high plasticity.		

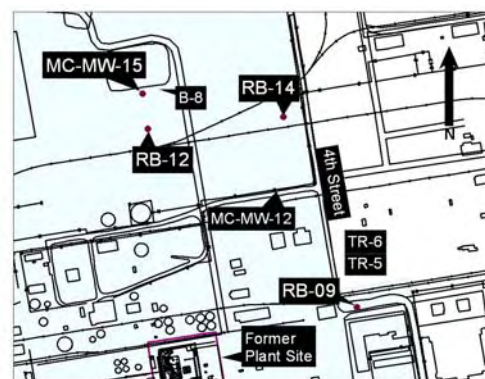
Depth (Feet Below Land Surface)	PID/FID (ppm)	Log Lithologic	USCS	Lithologic Description	Well Construction	Comments
75	69.1/ 713					
	N/A/ N/A			No Recovery.		
80	43.1/ 217			CLAYEY SILT, brown (7.5YR, 5/4), moderately dense to firm, moderate- to high plasticity. Occasional caliche nodules.		#60 sand (79-82 feet bls)
	71.7/ 469					
	72.0/ 525					
85	100/ 1172		ML			4" ID steel 0.010" slot screen (83.1-103.1 feet bls)
	460/ 1540					
	508/ 1522					
90	411/ 429		ML	CLAYEY SILT, light brown (7.5YR, 6/4), soft, moderate- to low plasticity, disseminated caliche.		#10-20 sand filter pack (82-105.4 feet bls)
	183/ 606					
95	126/ 273			CLAYEY SILT, brown (7.5YR, 4/4), dense, moderate- to high plasticity, faint chemical odor.		
	7.2/ 84.29			At 95- to 95.5 feet: finely disseminated caliche zone, greenish-buff.		
	16.4/ 157			97.5- to 100.5 feet: finely disseminated caliche zone, greenish-buff.		
100	12.2/ 103			104- to 104.5 feet: well-cemented clayey silt, hard.		
	5.2/ 43.77			From 106- to 110 feet: abundant caliche nodules.		
	6.8/ 57.22		ML			4" ID steel DNAPL sump (103.1-106.1 feet bls)
105	7.6/ 57.64					
	3.8/ 32.57					Flush threaded end cap
110	1.7/ 21.49					
	3.4/ 16.22					
115	1.4/ 22.45		ML	Sandy SILT, 85% silt, 15% sand, brown (7.5YR,		



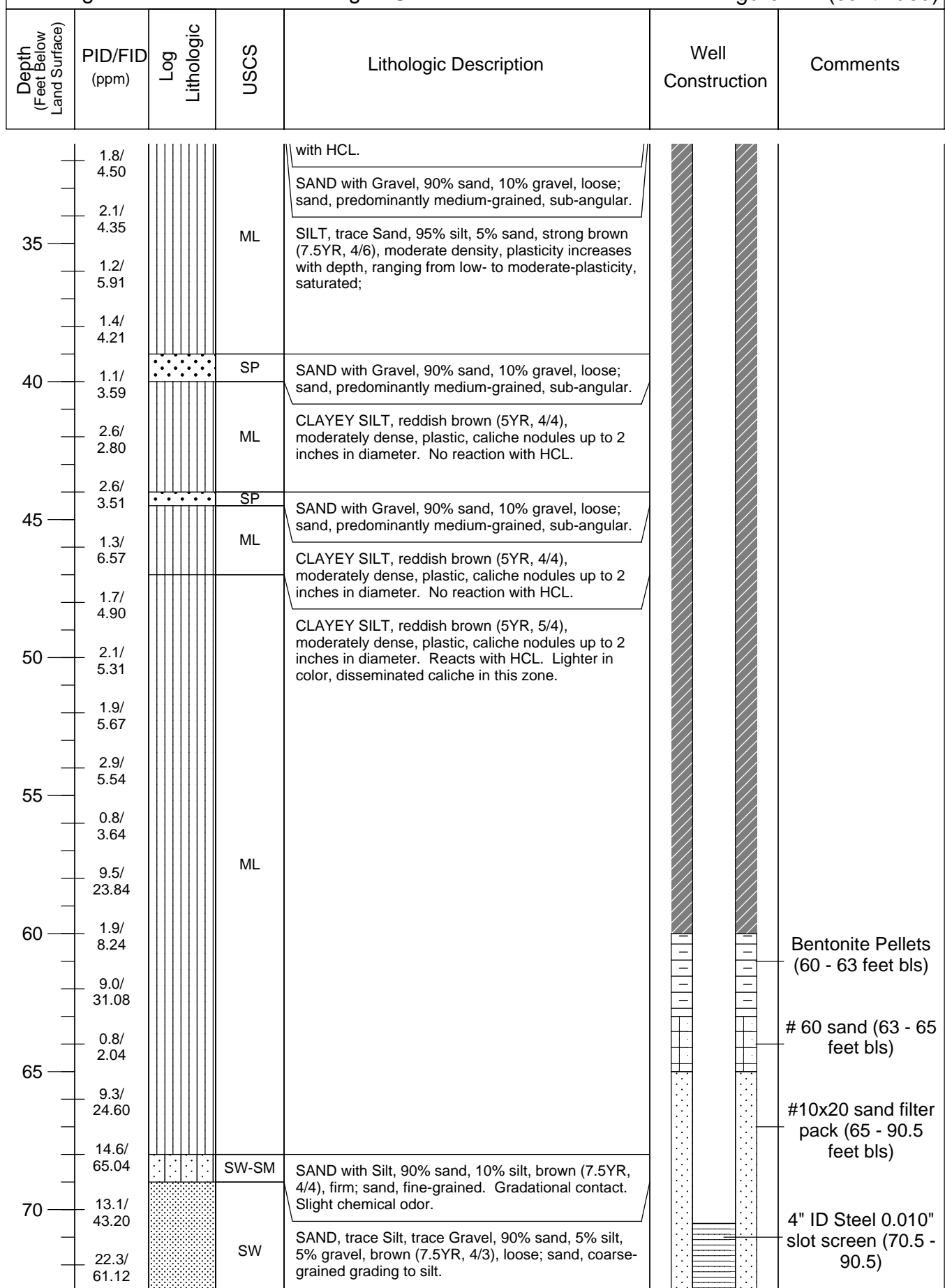
Depth (Feet Below Land Surface)	PID/FID (ppm)	Log Lithologic	USCS	Lithologic Description	Well Construction	Comments
115	0.1/ 3.31		CL	5/4), moderate density, plasticity; low- to none, sand, very fine-grained grading to silt.		Bentonite Cement (105.4-150 feet bls)
	0.0/ 2.95			SILTY CLAY, brown (7.5YR, 5/4), very dense, high plasticity. Veins/pockets of yellowish-green, very fine-grained sand.		
120	0.3/ 6.02			CLAYEY SILT, brown (7.5YR, 5/4), moderately dense, moderate- to high plasticity.		
	0.1/ 6.40		ML	At 123 feet: stringers of caliche nodules.		
	0.2/ 4.51			At 129 feet: concretion.		
125				At 133- 133.5 feet: disseminated caliche.		
	0.0/ 2.60					
	0.0/ 2.94					
130	0.1/ 3.04					
	0.0/ 2.28					
	0.0/ 3.50					
135	0.0/ 2.65					
	0.0/ 2.33					
140	0.0/ 3.10		CL-ML	SILTY CLAY and CLAYEY SILT interbedded; silty clay, reddish brown (5YR, 5/4), dense, moderate- to high plasticity; clayey silt, brown (7.5YR, 5/4), dense to moderately dense, moderate to high plasticity.		Total Depth = 150 feet bls
	0.1/ 3.25			At 147 feet: caliche layer, disseminated caliche with nodules.		
	0.0/ 2.75					
145	0.3/ 2.61					
	0.0/ 2.43					
150	0.0/ 1.44					

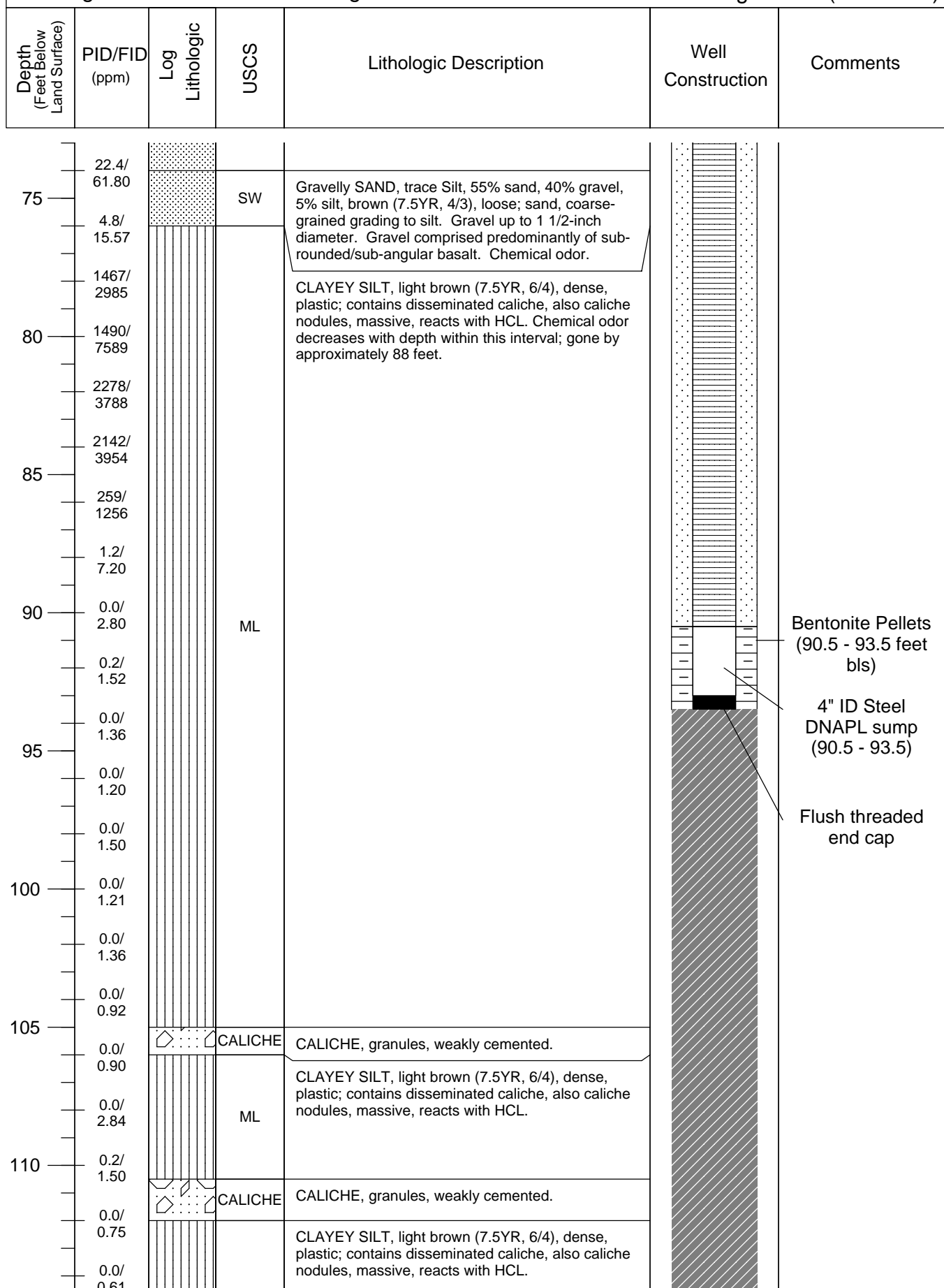
Lithologic and well construction log: RB-10/MC-MW-17

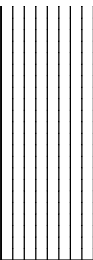
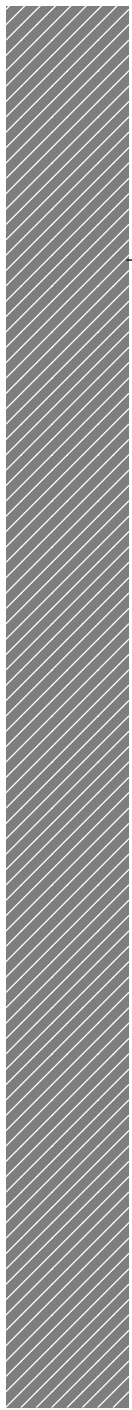

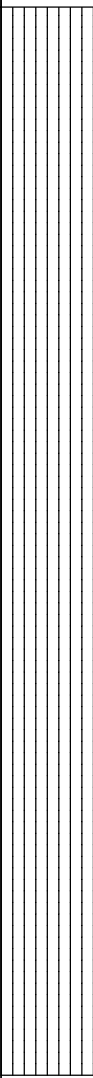
Northing 26717707.837 **Drill Method** RotoSonic
Easting 826576.824 **Sampling Method** Continuous
LS Elev. (ft) 1797.67 **Diameter of Casing** 4-inch
Ref. Pnt. Top of casing **Type of Casing** Stainless Steel
Ref. Pnt. Elev. (ft) 1800.42 **Slot Size** 0.010"
Total Depth (ft) 150 bls **Filter** #10-20 Sand
Depth to Water (ft) N/A
Date 03/20/08 - 03/24/08



Depth (Feet Below Land Surface)	PID/FID (ppm)	Lithologic Log	USCS	Lithologic Description	Well Construction	Comments
0						
5.0/ 2.00			SP	SAND with Silt, occasional gravel, 90% sand, 10% silt, light brown (7.5YR, 6/3) with multicolored grains, loose, dry; sand, predominantly fine-grained. Reacts with hydrochloric acid (HCL).		Monument vault (TOC is ~3 feet above land surface)
0.0/ 0.30						
0.2/ 0.20						
0.1/ 1.20			SP	SAND with Silt, occasional gravel, 90% sand, 10% silt, light brown (7.5YR, 6/3) with multicolored grains, firm, slightly moist; sand, predominantly fine-grained. Reacts with HCL.		
0.3/ 0.10						
1.6/ 0.70						
0.0/ 0.30			SP	SAND, trace Silt, 95% sand, 5% silt, occasional gravel, light brown (7.5YR, 6/4) with multicolored grains, firm, slightly moist; sand, medium- to fine-grained. Reacts with HCL.		Bentonite cement (0 - 60 feet bls)
0.3/ 0.40						
0.0/ 0.10						
0.2/ 1.20			SM	Silty SAND, 80% sand, 20% silt, light brown (7.5YR, 6/4) with multicolored grains, weakly cemented, slightly moist; sand, fine-grained grading to silt. Reacts with HCL.		
0.4/ 0.70			SP			
0.0/ 0.80			SM	SAND, trace Silt, 95% sand, 5% silt, occasional gravel, light brown (7.5YR, 6/4) with multicolored grains, firm, slightly moist; sand, medium- to fine-grained. Reacts with HCL.		4" ID Steel casing (0 - 70.5 feet bls)
1.0/ 1.80			SM	Silty SAND, 80% sand, 20% silt, light brown (7.5YR, 6/4) with multicolored grains, weakly cemented, slightly moist; sand, fine-grained grading to silt. Reacts with HCL.		
0.6/ 1.70						
1.2/ 1.50			SP	Silty SAND, 75% sand, 25% silt, strong brown (7.5YR, 5/6), moderately dense, slightly moist; sand, very fine-grained grading to silt. At 28 feet: weakly cemented clumps of caliche. Reacts weakly		

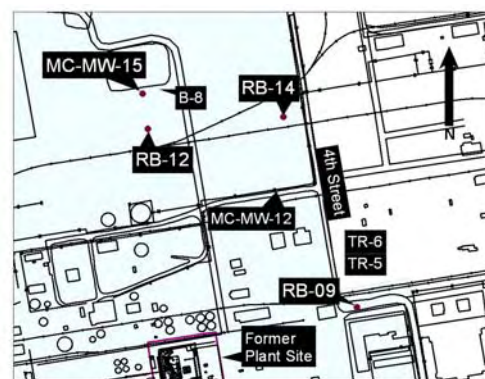




Depth (Feet Below Land Surface)	PID/FID (ppm)	Log Lithologic	USCS	Lithologic Description	Well Construction	Comments
115	0.61		ML			
	0.0/ 0.72					
	1.2/ 0.75					
120	1.3/ 0.70		CALICHE	CALICHE, granules, weakly cemented.		Bentonite cement (93.5 - 150 feet bls)
	0.9/ 0.88					
125	0.0/ 0.50			CLAYEY SILT, light brown (7.5YR, 6/4), dense, plastic; contains disseminated caliche, also caliche nodules, massive, reacts with HCL.		
	0.0/ 0.08					
	0.2/ 0.50					
130	0.1/ 0.21					
	0.0/ 0.10					
	6.8/ 1.20					
135	0.0/ 0.13					
	0.0/ 0.41					
140	0.0/ 0.226					
	0.0/ 0.10					
145	0.1/ 0.15					
	0.0/ 0.12					
	1.7/ 0.36					
150	1.1/ 0.71					Total Depth = 150 feet bls

Lithologic and well construction log: RB-11/MC-MW-18

Northing 26718439.153 **Drill Method** RotoSonic
Easting 826495.850 **Sampling Method** Continuous
LS Elev. (ft) 1784.50 **Diameter of Casing** 4-inch
Ref. Pnt. Top of case **Type of Casing** Stainless Steel
Ref. Pnt. Elev. (ft) 1787.10 **Slot Size** 0.010"
Total Depth (ft) 146 bls **Filter** #10-20 Sand
Depth to Water (ft) N/A
Date 03/26/08 - 03/27/08



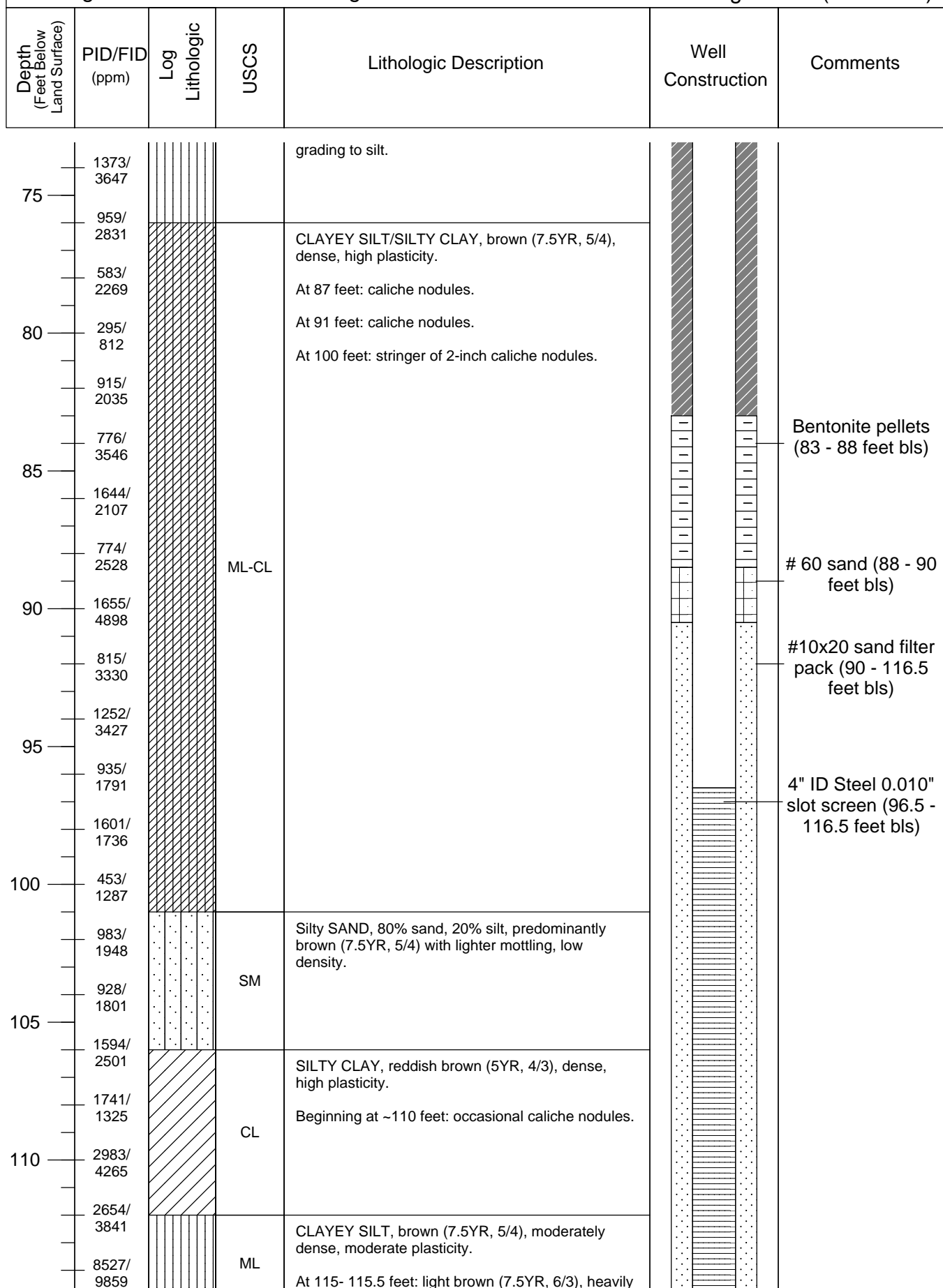
Depth (Feet Below Land Surface)	PID/FID (ppm)	Lithologic Log	USCS	Lithologic Description	Well Construction	Comments
0						
0.8/ 0.61						
0.8/ 0.43						
5						
1.5/ 0.94						
1.4/ 0.24						
10						
1.8/ 0.20						
2.2/ 3.60						
0.3/ 2.82			SW			
0.9/ 2.49						
0.9/ 4.12						
20						
0.4/ 0.52						
1.1/ 2.71						
2.4/ 3.01						
25						
1.7/ 2.23						
2.5/ 7.97			CALICHE	Caliche layer, very hard, comes out the core barrel in discs/cookies.		
30						
1.5/ 5.80				CLAYEY SILT, strong brown (7.5YR, 5/6), very dense/dense, very slightly moist, moderate- to low-plasticity. Occasional caliche nodules.		

Monument vault
(TOC is 2.85 feet
above land
surface)

Bentonite cement
(0 - 83 feet bls)

4" ID Steel casing
(0 - 96.5 feet bls)

Depth (Feet Below Land Surface)	PID/FID (ppm)	Log Lithologic	USCS	Lithologic Description	Well Construction	Comments
35	5.1/ 20.13			At 36 feet: plasticity and moisture increase: moderately plastic, saturated.		
	3.1/ 15.82			At 47 feet: mottling caused by finely disseminated caliche.		
	9.7/ 30.00			At 58.5 feet: stringer of caliche nodules, less than 2 inches diameter.		
	11.4/ 78.17					
40	43.4/ 180					
	135/ 423					
	457/ 1101					
45	401/ 1628		ML			
	368/ 1309					
50	323/ 856					
	228/ 1006					
	285/ 1387					
55	400/ 874					
	380/ 682					
60	453/ 1006					
	579/ 1625			Sandy SILT, 80% silt, 20% sand, brown (7.5YR, 4/4), firm/soft, low plasticity; sand, very fine-grained grading to silt.		
	745/ 1271		ML			
65	412/ 1656					
	642/ 2761					
		• • • • •	SP			
70	1283/ 3643			Silty SAND, trace Gravel, 80% sand, 15% silt, 5% gravel, brown (7.5YR, 4/4), with multicolored grains; sand, predominantly coarse-grained, fine-grained sand fraction grades to silt.		
	640/ 2662		ML	Sandy SILT, 80% silt, 20% sand, brown (7.5YR, 4/4), firm/soft, low plasticity; sand, very fine-grained		



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PID = Photo Ionization Detector
FID = Flame Ionization Detector
> = greater than

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